

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO.  
FOR  
SYNGENTA SEEDS, INC.  
WOODLAND SEED PROCESSING FACILITY  
YOLO COUNTY

The Discharger shall comply with this Monitoring and Reporting Program (MRP), which describes requirements for monitoring process wastewater, supplemental irrigation water, waste solids, and land application areas. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Field test instruments (such as those used to measure pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are field-calibrated prior to each monitoring event;
3. The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of the MRP.

**WASTEWATER MONITORING**

Wastewater samples shall be collected at a point in the system downstream of the screen and upstream of the wastewater land application area. Sampling is not required during periods when no wastewater is discharged to the land application area. Grab samples collected from a pipeline or sump pit will be considered representative. At a minimum, the Discharger shall monitor the wastewater as follows:

| <u>Constituent/Parameter</u>  | <u>Units</u> | <u>Sample Type</u> | <u>Sampling Frequency</u> | <u>Reporting Frequency</u> |
|-------------------------------|--------------|--------------------|---------------------------|----------------------------|
| pH                            | pH units     | Grab               | Weekly                    | Monthly                    |
| Electrical Conductivity       | umhos/cm     | Grab               | Weekly                    | Monthly                    |
| Total Dissolved Solids        | mg/L         | Grab               | Weekly                    | Monthly                    |
| Fixed Dissolved Solids        | mg/L         | Grab               | Weekly                    | Monthly                    |
| BOD <sub>5</sub> <sup>1</sup> | mg/L         | Grab               | Weekly                    | Monthly                    |
| Total Kjeldahl Nitrogen       | mg/L         | Grab               | Weekly                    | Monthly                    |
| Nitrate Nitrogen              | mg/L         | Grab               | Weekly                    | Monthly                    |
| Ammonia Nitrogen              | mg/L         | Grab               | Weekly                    | Monthly                    |
| Sodium                        | mg/L         | Grab               | Monthly                   | Monthly                    |

| <u>Constituent/Parameter</u> | <u>Units</u> | <u>Sample Type</u> | <u>Sampling Frequency</u> | <u>Reporting Frequency</u> |
|------------------------------|--------------|--------------------|---------------------------|----------------------------|
| Chloride                     | mg/L         | Grab               | Monthly                   | Monthly                    |

<sup>1</sup> 5-day, 20°C Biochemical Oxygen Demand.

### SUPPLEMENTAL IRRIGATION WATER MONITORING

If supplemental fresh water is used to irrigate the wastewater land application area, the Discharger shall monitor the supplemental irrigation supply water. Sampling is not required during periods when no water is discharged to the land application areas. Samples of supplemental irrigation water may be collected at any point between the wellhead and the wastewater land application area. Grab samples will be considered representative. At a minimum, the Discharger shall monitor the supplemental irrigation supply water as follows:

| <u>Constituent/Parameter</u> | <u>Units</u> | <u>Sample Type</u> | <u>Sampling Frequency</u> | <u>Reporting Frequency</u> |
|------------------------------|--------------|--------------------|---------------------------|----------------------------|
| pH                           | pH units     | Grab               | Monthly                   | Monthly                    |
| Electrical Conductivity      | umhos/cm     | Grab               | Monthly                   | Monthly                    |
| Total Dissolved Solids       | mg/L         | Grab               | Monthly                   | Monthly                    |
| Fixed Dissolved Solids       | mg/L         | Grab               | Monthly                   | Monthly                    |
| Total Kjeldahl Nitrogen      | mg/L         | Grab               | Monthly                   | Monthly                    |
| Nitrate Nitrogen             | mg/L         | Grab               | Monthly                   | Monthly                    |
| Sodium                       | mg/L         | Grab               | Monthly                   | Monthly                    |
| Chloride                     | mg/L         | Grab               | Monthly                   | Monthly                    |

### FLOW MONITORING

The Discharger shall monitor wastewater and supplemental irrigation water flows as follows:

| <u>Flow Source</u>                                | <u>Units</u>   | <u>Type of Measurement</u>        | <u>Monitoring Frequency</u> | <u>Reporting Frequency</u> |
|---|----------------|-----------------------------------|-----------------------------|----------------------------|
| Daily subtotal to each irrigation field or check: | gpd and inches | Meter Observation/<br>Calculation | Daily <sup>1</sup>          | Monthly                    |
| Wastewater  |                |                                   |                             |                            |
| Supplemental irrigation water                     |                |                                   |                             |                            |
| Total water                                       |                |                                   |                             |                            |

<sup>1</sup> Calculated based on total daily flows, flow rates, checks in use, and length of set time for each check.

## WASTE SOLIDS MONITORING

Samples of solids removed from the processing area and wastewater screen shall be collected just prior to discharge to the solids application area. Sampling is not required during periods when no solids are discharged to the land application area. Grab samples collected from a bin or transport vehicle will be considered representative. At a minimum, the Discharger shall monitor the solids as follows:

| <u>Constituent/Parameter</u> | <u>Units</u>       | <u>Sample Type</u> | <u>Sampling Frequency</u> | <u>Reporting Frequency</u> |
|------------------------------|--------------------|--------------------|---------------------------|----------------------------|
| Total weight discharged      | tons <sup>1</sup>  | Calculated         | Daily                     | Monthly                    |
| Total solids                 | mg/Kg              | Grab               | Monthly                   | Monthly                    |
| Total organic carbon         | mg/Kg <sup>2</sup> | Grab               | Monthly                   | Monthly                    |
| Total nitrogen               | mg/Kg <sup>2</sup> | Grab               | Monthly                   | Monthly                    |

<sup>1</sup> May be estimated based on volume (cubic yards) and typical wet density, if known. Report as both wet weight and dry weight.

<sup>2</sup> Results shall be reported on both a wet weight and dry weight basis.

## WASTEWATER LAND APPLICATION AREA MONITORING

### A. Daily Field Inspections

The Discharger shall inspect the wastewater land application area at least once daily prior to and during irrigation events, and observations from those inspections shall be documented for inclusion in the monthly monitoring reports. The following items shall be documented for each check or field to be irrigated on that day:

1. Runoff control berm condition;
2. Condition of each sprinkler head and flow control valve;
3. Soil saturation, ponding, and evidence of soil clogging;
4. Potential runoff to off-site areas and/or surface water;
5. Accumulation of organic solids at soil surface;
6. Odors that have the potential to be objectionable at or beyond the property boundary; and
7. Insects.

A copy of entries made in the log during each month shall be submitted as part of the Monthly Monitoring Report.

## B. Routine Monitoring

The Discharger shall perform the following routine monitoring and loading calculations during all months when land application of wastewater occurs, and shall present the data in the Monthly and Annual Monitoring Reports.

| Constituent   | Units              | Type of Sample             | Sampling Frequency | Reporting Frequency |
|---|--------------------|----------------------------|--------------------|---------------------|
| Precipitation   | 0.1 in.            | Rain Gauge <sup>1</sup>    | Daily              | Monthly, Annually   |
| Irrigation checks receiving wastewater  | --                 | Observation                | Daily              | Monthly, Annually   |
| Hydraulic loading rate:<br>Wastewater<br>Fresh water<br>Total                           | Gallons and inches | Calculated <sup>2</sup>    | Daily              | Monthly, Annually   |
| BOD <sub>5</sub> loading rate<br>Peak daily<br>Cycle average                            | lb/ac/day          | Calculated <sup>2, 3</sup> | Daily              | Monthly, Annually   |
| Cumulative nitrogen loading rate<br>Wastewater<br>Fresh water<br>Total                  | lb/ac              | Calculated <sup>2, 4</sup> | Daily              | Monthly, Annually   |
| Cumulative (to date) flow-weighted electrical conductivity (wastewater and fresh water) | mg/L               | Calculated <sup>2, 4</sup> | Monthly            | Monthly, Annually   |

<sup>1</sup> Data obtained from the nearest National Weather Service rain gauge is acceptable.

<sup>2</sup> Rate shall be calculated for each irrigation check.

<sup>3</sup> BOD<sub>5</sub> shall be calculated using the daily applied volume of wastewater, actual application area, and the average of the three most recent BOD<sub>5</sub> results.

<sup>4</sup> Total nitrogen and TDS loading rates shall be calculated as a flow-weighted average using the applied volume of wastewater, actual application area, and effluent monitoring results.

<sup>5</sup> Loading rates for supplemental nitrogen shall be calculated using the actual load and the application area.

## WASTE SOLIDS LAND APPLICATION AREA MONITORING

### A. Daily Field Inspections

The Discharger shall inspect the waste solids land application area at least once daily prior to and during land application, and observations from those inspections shall be documented for

inclusion in the monthly monitoring reports. The following items shall be documented for each check or field to be used on that day:

1. Accumulation of organic solids at soil surface;
2. Odors that have the potential to be objectionable at or beyond the property boundary; and
3. Insects.

A copy of entries made in the log during each month shall be submitted as part of the Monthly Monitoring Report.

## B. Routine Monitoring

The Discharger shall perform the following routine monitoring and loading calculations during all months when land application of solids occurs, and shall present the data in the Monthly and Annual Monitoring Reports.

| Constituent                                    | Units         | Type of Sample          | Sampling Frequency | Reporting Frequency |
|--|---------------|-------------------------|--------------------|---------------------|
| Fields receiving solids (depict on scaled map) | --            | Observation             | Daily              | Monthly, Annually   |
| Application rate:                              |               |                         |                    |                     |
| Wet  | tn/ac, inches | Calculated <sup>1</sup> | Daily              | Monthly, Annually   |
| Dry  | tn/ac         |                         |                    |                     |
| Cumulative nitrogen loading rate               | lb/ac         | Calculated <sup>1</sup> | Daily              | Monthly, Annually   |

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<sup>1</sup> Rates shall be calculated for each field.

## REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g. effluent, groundwater), sampling location, and the reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

## A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board on the **1<sup>st</sup> day of the second month following sampling** (i.e., the January report is due by 1 March). Monthly Monitoring

Reports shall be submitted regardless of whether there is any process wastewater generated. At a minimum, the reports shall include:

1. Results of wastewater, supplemental irrigation water, waste solids, flow, and all land application area monitoring. Data shall be presented in tabular format.
2. Daily precipitation data in tabular form accompanied by starting and ending dates of irrigation for each field or check.
3. Daily field inspection reports.
4. A comparison of monitoring data to the discharge specifications and applicable limitations and an explanation of any violation of those requirements.
5. When requested by staff, copies of laboratory analytical report(s).
6. Calibration log(s) verifying calibration of any field monitoring instruments (e.g., DO, pH, and EC meters) used to obtain data.
7. Daily discharge volumes and acres irrigated shall be tabulated. The report shall include a discussion of the discharge volumes and irrigation practices used (water source, method of application, application period/duration, drying times, etc.) for each check or group of checks utilized during the month. Hydraulic loading rates (inches/acre/month) shall be calculated.
8. Maximum daily BOD<sub>5</sub> loading rates (lbs/acre/day) shall be calculated for each irrigation check using the total volume applied on the day of application, estimated application area, and a running average of the three most recent results of BOD<sub>5</sub> for the applicable source water, which also shall be reported along with supporting calculations. Cycle average BOD<sub>5</sub> loading rates shall be calculated using the total volume applied on the day of application, the number of days between applications, the total application period, application area, and a running average of the three most recent results of BOD<sub>5</sub> for the wastewater.
9. Total nitrogen loading rates (lbs/acre/month) shall be calculated for each irrigation check on monthly basis using the daily applied volume of wastewater, daily application area, and the most recent monitoring results, which shall also be reported along with supporting calculations.
10. Nitrogen loading rates for other sources (i.e., fertilizers) shall be calculated for each irrigation check on a monthly basis using the daily applied load and the estimated daily application area.
11. Cumulative nitrogen loading rates for each irrigation check for the calendar year to date shall be calculated as a running total of monthly loadings to date from all sources.

12. Flow-weighted average electrical conductivity and chloride concentration shall be calculated based on year-to-date flow, wastewater, and supplemental irrigation water monitoring results.

## **B. Annual Monitoring Report**

An Annual Report shall be submitted to the Regional Board by **1 February** each year. The Annual Report shall include the following:

1. Tabular and graphical summaries of historical monthly total loading rates for water (hydraulic loading in gallons and inches), BOD, and total nitrogen solids applied to the wastewater land application area.
2. The flow-weighted average electrical conductivity and chloride concentration of the wastewater shall be calculated based on measured daily flows; and wastewater, and supplemental irrigation water monitoring results for the year.
3. For each violation of the Effluent Limitations of this Order, the report shall describe in detail the nature of the violation, date(s) of occurrence, cause(s), mitigation or control measures taken to prevent or stop the violation, and additional operational or facility modifications that will be made to ensure that the violation does not occur in the following year.
4. A comprehensive evaluation of the effectiveness of the past year's wastewater application operation in terms of odor control, including consideration of application management practices (i.e.: waste constituent and hydraulic loadings, application cycles, drying times, and cropping practices), soil profile monitoring data and groundwater monitoring data.
5. A narrative description of solids disposal practices, including identification of the fields where solids were applied, the total nitrogen applied to each field during the year, typical application depths and incorporation practices, any nuisance conditions that occurred, and corrective actions taken to remedy nuisance conditions, if any.
6. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.
7. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.

A letter transmitting the self-monitoring reports shall accompany each report. The letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the certification statement by the

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Discharger or the Discharger's authorized agent, as described in the Standard Provisions  
General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: \_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer

\_\_\_\_\_  
(date)

ALO:8/18/2008